

10/633835

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DICTIONARY FILE UPDATES: 5 MAR 2006 HIGHEST RN 875875-45-9

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L1 E ACETYL COA CARBOXYLASE/CN 5
17 S ACETYL COA CARBOXYLASE ?/CN
E BIOTIN CARBOXYLASE/CN 5
L2 135 S BIOTIN CARBOXYLASE?/CN

E SORAPHEN/CN
L5 19 S E11 OR E16-25 OR E28-36

-key terms

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FILE COVERS 1907 - 6 Mar 2006 VOL 144 ISS 11
FILE LAST UPDATED: 5 Mar 2006 (20060305/ED)

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<http://www.cas.org/infopolicy.html>

L1 17 SEA FILE=REGISTRY ABB=ON PLU=ON ACETYL COA CARBOXYLASE
?/CN
L2 135 SEA FILE=REGISTRY ABB=ON PLU=ON BIOTIN CARBOXYLASE?/CN
L5 19 SEA FILE=REGISTRY ABB=ON PLU=ON "SORAPHEN A"/CN OR
("SORAPHEN A1A"/CN OR "SORAPHEN B"/CN OR "SORAPHEN
C"/CN OR "SORAPHEN D"/CN OR "SORAPHEN E"/CN OR "SORAPHEN
F"/CN OR "SORAPHEN H"/CN OR "SORAPHEN J"/CN OR "SORAPHEN
M"/CN OR "SORAPHEN N"/CN) OR ("SORAPHEN Q"/CN OR "SORAPHEN
R"/CN OR "SORAPHEN S"/CN OR "SORAPHEN T"/CN OR "SORAPHEN
U"/CN OR "SORAPHEN V"/CN OR "SORAPHEN X"/CN OR "SORAPHEN
Y"/CN OR "SORAPHEN Z"/CN)
L6 8201 SEA FILE=CAPLUS ABB=ON PLU=ON L1 OR (AC OR ACETYL) (W) (COA
OR (COENZYME OR CO ENZYME OR CO) (W)A) (W) CARBOXYLASE OR
ACCASE OR ACC
L7 145 SEA FILE=CAPLUS ABB=ON PLU=ON L6 AND (L2 OR BIOTIN
CARBOXYLASE OR BC)
L8 5 SEA FILE=CAPLUS ABB=ON PLU=ON L7 AND (L5 OR SORAPHEN)

L8 ANSWER 1 OF 5 CAPLUS COPYRIGHT 2006 ACS on STN

ED Entered STN: 17 Feb 2006

ACCESSION NUMBER: 2006:149488 CAPLUS

DOCUMENT NUMBER: 144:187043

TITLE: Crystal structure of **biotin**
carboxylase domain of **acetyl-**
coenzyme A carboxylase
and its use for molecular modeling of modulators
INVENTOR(S): Shen, Yang; Volrath, Sandra L.; Weatherly,
Stephanie C.; Elich, Tedd D.; Anderson, Richard;
Tong, Liang

PATENT ASSIGNEE(S): Cropsolution, Inc., USA

SOURCE: PCT Int. Appl., 483 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006017515	A2	20060216	WO 2005-US27440	20050803
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR,			

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BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD,
TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

PRIORITY APPLN. INFO.:

US 2004-599831P P 20040806

US 2004-637068P P 20041217

AB The crystal structure atomic coordinates are provided for a **biotin carboxylase (BC)** domain of yeast **acetyl-CoA carboxylase (ACC)** as free enzyme at 2.9 Å resolution and in complex with **soraphen A** at 1.8 Å resolution. Homol. modeling of yeast **ACC** may be employed to solve the structures of **BC** domains of other **ACC** species, including those of *Magnaporthe*, *Ustilago maydis*, *Phytophthora infestans*, human **ACC1** and **ACC2**, and mouse. The invention also provides computer-based methods for identifying compds. that modulates activity of **ACC**, a computer-based method for rationally designing a compound that modulates activity of **ACC**, along with compds. produced by such methods. The structures suggest that **soraphen** may have a novel mechanism of inhibiting the **BC** domain by binding in the dimer interface, thereby disrupting the oligomerization of this domain, which is crucial for its catalytic activity. A fluorescence-based binding assay allowed characterization of the effects of single site mutations in the **soraphen** binding site on inhibitor sensitivity. Agrochem. and pharmaceutical uses of **ACC** modulators are also provided (no data).

IT **9075-71-2D, Biotin carboxylase**, complex with **soraphen A 122547-72-2D, Soraphen A**, complex with **acetyl-CoA carboxylase**
RL: BUU (Biological use, unclassified); PRP (Properties); BIOL (Biological study); USES (Uses)
(crystal structure of **biotin carboxylase** domain of **acetyl-CoA carboxylase** and its use for mol. modeling of modulators)

L8 ANSWER 2 OF 5 CAPLUS COPYRIGHT 2006 ACS on STN

ED Entered STN: 17 Jan 2005

ACCESSION NUMBER: 2005:38098 CAPLUS

DOCUMENT NUMBER: 142:214253

TITLE: A mechanism for the potent inhibition of eukaryotic **acetyl-coenzyme**

A carboxylase by

soraphen A, a macrocyclic polyketide natural product

AUTHOR(S): Shen, Yang; Volrath, Sandra L.; Weatherly, Stephanie C.; Elich, Tedd D.; Tong, Liang

CORPORATE SOURCE: Department of Biological Sciences, Columbia University, New York, NY, 10027, USA

SOURCE: Molecular Cell (2004), 16(6), 881-891

CODEN: MOCEFL; ISSN: 1097-2765

PUBLISHER: Cell Press

DOCUMENT TYPE: Journal

LANGUAGE: English

AB **Acetyl-CoA carboxylases (ACCs)**

have crucial roles in fatty acid metabolism **Soraphen A**, a macrocyclic polyketide natural product, is a nanomolar inhibitor against the **biotin carboxylase (BC)**

domain of human, yeast, and other eukaryotic **ACCs**. Here we

Searcher : Shears 571-272-2528

report the crystal structures of the yeast **BC** domain, alone and in complex with **soraphen A**. **Soraphen** has extensive interactions with an allosteric site, about 25 Å from the active site. The specificity of **soraphen** is explained by large structural differences between the eukaryotic and prokaryotic **BC** in its binding site, confirmed by our studies on the effects of single-site mutations in this binding site. Unexpectedly, our structures suggest that **soraphen** may bind in the **BC** dimer interface and inhibit the **BC** activity by disrupting the oligomerization of this domain. Observations from native gel electrophoresis confirm this structural insight. The structural information provides a foundation for structure-based design of new inhibitors against these enzymes.

IT **9075-71-2, Biotin carboxylase**

RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)

(crystal structures suggest **soraphen A** binding disrupts oligomerization of **biotin carboxylase** domain in yeast **acetyl-CoA carboxylase**)

IT **122547-72-2D, Soraphen A, complexes with BC domain**

RL: PRP (Properties)

(crystal structures suggest **soraphen A** binding disrupts oligomerization of **biotin carboxylase** domain in yeast **acetyl-CoA carboxylase**)

REFERENCE COUNT: 57 THERE ARE 57 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2006 ACS on STN

ED Entered STN: 10 Jun 2004

ACCESSION NUMBER: 2004:468907 CAPLUS

DOCUMENT NUMBER: 141:152893

TITLE: Expression and characterization of recombinant fungal **acetyl-CoA**

carboxylase and isolation of a **soraphen**-binding domain

AUTHOR(S): Weatherly, Stephanie C.; Volrath, Sandra L.; Elich, Tedd D.

CORPORATE SOURCE: Cropsolution, Inc., Research Triangle Park, NC, 27560, USA

SOURCE: Biochemical Journal (2004), 380(1), 105-110
CODEN: BIJOAK; ISSN: 0264-6021

PUBLISHER: Portland Press Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB **Actyl-CoA carboxylase (ACC)** catalyzes the 1st step in fatty acid biosynthesis. Owing to its role in primary metabolism, **ACC** has been exploited as a com. herbicide target and identified as a chemical validated fungicide target. In animals, **ACC** is also a key regulator of lipid metabolism. This function has made **ACC** a prime target for the development of antiobesity and anti-type II diabetes therapeutics. Despite its economic importance, there is a lack of published information on the recombinant expression of **ACC**. Here, the authors report the expression of enzymically active fungal (*Ustilago maydis*) **ACC** in *Escherichia coli*. The recombinant enzyme exhibited *K_m* values of 0.14 and 0.19 mM for **acetyl-CoA** and **ATP** resp., which were comparable with those reported for the endogenous enzyme. The polyketide natural product,

soraphen A, is a potent inhibitor of the **biotin carboxylase (BC)** domain of endogenous fungal **ACC**. Similarly, recombinant **ACC** activity was inhibited by **soraphen A** with a K_i of 2.1 nM. A truncated **BC** domain that included amino acids 2-560 of the full-length protein was also expressed in *E. coli*. The isolated **BC** domain was expressed to higher levels, and was more stable than full-length **ACC**. Although incapable of enzymic turnover, the **BC** domain exhibited high-affinity **soraphen A** binding ($K_d = 1.1$ nM), demonstrating a native conformation. Addnl. **BC** domains from the phytopathogenic fungi, *Magnaporthe grisea* and *Phytophthora infestans*, were also cloned and expressed, and were shown to exhibit high-affinity **soraphen A** binding. Together, these reagents will be useful for structural studies and assay development.

IT 9075-71-2P, **Biotin carboxylase**

RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); PUR (Purification or recovery); BIOL (Biological study); PREP (Preparation)

(expression in *Escherichia coli* and purification and characterization of recombinant fungal **acetyl-CoA carboxylase** and purification of **soraphen A**-binding **biotin carboxylase** domain)

IT 122547-72-2, **Soraphen A**

RL: BSU (Biological study, unclassified); BIOL (Biological study) (expression in *Escherichia coli* and purification and characterization of recombinant fungal **acetyl-CoA carboxylase** and purification of **soraphen A**-binding **biotin carboxylase** domain)

REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 4 OF 5 CAPLUS COPYRIGHT 2006 ACS on STN

ED Entered STN: 13 Feb 2004

ACCESSION NUMBER: 2004:120870 CAPLUS

DOCUMENT NUMBER: 140:176293

TITLE: Sequences of fungal and human **acetyl CoA carboxylase** and recombinant **biotin carboxylase** domains for identification of **acetyl CoA carboxylase** inhibitors

INVENTOR(S): Elich, Tedd D.; Volrath, Sandra L.; Weatherly, Stephanie C.

PATENT ASSIGNEE(S): Cropsolution, Inc., USA

SOURCE: PCT Int. Appl., 56 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004013159	A2	20040212	WO 2003-US24356	20030804
WO 2004013159	A3	20050909		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ,

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LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ,
NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK,
SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU,
ZA, ZM, ZW
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ,
BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE,
SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR,
NE, SN, TD, TG
CA 2494268 AA 20040212 CA 2003-2494268 20030804
US 2004086994 A1 20040506 US 2003-633835 20030804
EP 1572722 A2 20050914 EP 2003-767154 20030804
EP 1572722 A3 20051102
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,
PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK
JP 2006500013 T2 20060105 JP 2004-526405 20030804
PRIORITY APPLN. INFO.: US 2002-401170P P 20020805
WO 2003-US24356 W 20030804

AB A peptide comprising an **Acetyl CoA carboxylase (ACCase)** having a deleted biotin binding domain, having a deleted carboxy transferase domain, and having a functional **biotin carboxylase (BC)** domain is described. **ACCase** is selected from the group consisting of mammal, insect, yeast, Ascomycota, Basidiomycota, and Oomycota **ACCase**. The protein sequence of the peptide described above and a recombinant host cell that contains the nucleic acid and expresses the encoded peptide is also described. A method of identifying **Acetyl CoA carboxylase** inhibitors, fungicides, is also described herein.

IT **128481-23-2, Soraphens**
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(binding to **acetyl CoA carboxylase**;
sequences of fungal and human **acetyl CoA carboxylase** and recombinant **biotin carboxylase** domains for identification of **acetyl CoA carboxylase** inhibitors)

L8 ANSWER 5 OF 5 CAPLUS COPYRIGHT 2006 ACS on STN
ED Entered STN: 19 Jul 1995
ACCESSION NUMBER: 1995:682905 CAPLUS
DOCUMENT NUMBER: 123:78448
TITLE: Selection, cloning of gene for, and purification of yeast **acetyl-CoA carboxylase** resistant to **soraphen**
A.
INVENTOR(S): Vahlensieck, Hans-Friedrich; Hinnen, Albert
PATENT ASSIGNEE(S): Ciba-Geigy AG, Switz.; Syngenta Participations AG
SOURCE: Eur. Pat. Appl., 11 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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Searcher : Shears 571-272-2528

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EP 658622	A2	19950621	EP 1994-810710	19941208
EP 658622	A3	19990630		
EP 658622	B1	20030521		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
AT 241009	E	20030615	AT 1994-810710	19941208
PT 658622	T	20031031	PT 1994-810710	19941208
ES 2199223	T3	20040216	ES 1994-810710	19941208
US 5641666	A	19970624	US 1994-354973	19941213
JP 07203966	A2	19950808	JP 1994-333986	19941216
US 6153374	A	20001128	US 1995-469708	19950606
PRIORITY APPLN. INFO.:			GB 1993-25819	A 19931217
			US 1994-354973	A3 19941213

AB The present invention discloses DNA mols. comprising a gene encoding yeast **acetyl-CoA carboxylase** resistant to **soraphen A** inhibition. Mutations conferring **soraphen A** resistance to **acetyl-CoA carboxylase** can be dominant or recessive, and they can be point mutations, deletion or insertion mutations. In addition methods of isolating a gene encoding fungal **acetyl-CoA carboxylase** resistant to **soraphen A** inhibition. are provided as well as methods for purifying fungal **acetyl-CoA carboxylase** resistant to **soraphen A** inhibition. Purified enzyme can be used in assays to identify inhibitors of **soraphen A** resistant **acetyl-CoA carboxylase**.

IT 9075-71-2, **Biotin carboxylase**

RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(selection, cloning and purification of yeast **acetyl-CoA carboxylase** resistant to **soraphen A**)

IT 122547-72-2, **Soraphen A**

RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(selection, cloning and purification of yeast **acetyl-CoA carboxylase** resistant to **soraphen A**)

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FILE 'JAPIO' ENTERED AT 11:25:07 ON 06 MAR 2006
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L9 10 S L8
L10 4 DUP REM L9 (6 DUPLICATES REMOVED)

L10 ANSWER 1 OF 4 EMBASE COPYRIGHT (c) 2006 Elsevier B.V. All rights reserved on STN

ACCESSION NUMBER: 2005382868 EMBASE

TITLE: **Acetyl-coenzyme A carboxylase:** Crucial metabolic enzyme and attractive target for drug discovery.

AUTHOR: Tong L.

CORPORATE SOURCE: L. Tong, Department of Biological Sciences, Columbia University, New York, NY 10027, United States.
tong@como.bio.columbia.edu

SOURCE: Cellular and Molecular Life Sciences, (2005) Vol. 62, No. 16, pp. 1784-1803. .
Refs: 127

ISSN: 1420-682X CODEN: CMLSFI

COUNTRY: Switzerland

DOCUMENT TYPE: Journal; General Review

FILE SEGMENT: 030 Pharmacology
037 Drug Literature Index

LANGUAGE: English

SUMMARY LANGUAGE: English

ENTRY DATE: Entered STN: 20050922

Last Updated on STN: 20050922

AB **Acetyl-coenzyme A carboxylases**

(ACCs) have crucial roles in fatty acid metabolism in most living organisms. Mice deficient in ACC2 have continuous fatty acid oxidation and reduced body fat and body weight, validating this enzyme as a target for drug development against obesity, diabetes and other symptoms of the metabolic syndrome. ACC is a biotin-dependent enzyme and catalyzes the carboxylation of acetyl-CoA to produce malonyl-CoA through its two catalytic activities, **biotin carboxylase (BC)** and **carboxyltransferase (CT)**. ACC is a multi-subunit enzyme in most prokaryotes, whereas it is a large, multi-domain enzyme in most eukaryotes. The activity of the enzyme can be controlled at the transcriptional level as well as by small molecule modulators and covalent modification. This review will summarize the structural information that is now available for both the BC and CT enzymes, as well as the molecular mechanism of action of potent ACC inhibitors. The current intense research on these enzymes could lead to the development of novel therapies against metabolic syndrome and other diseases. .COPYRGT. Birkhauser Verlag, 2005.

L10 ANSWER 2 OF 4 WPIDS COPYRIGHT 2006 THE THOMSON CORP on STN

ACCESSION NUMBER: 2004-180421 [17] WPIDS

DOC. NO. NON-CPI: N2004-143468

DOC. NO. CPI: C2004-071370

TITLE: Novel peptide comprising **acetyl CoA carboxylase (ACCase)** having deleted biotin binding domain and carboxy transferase domain, and having functional **biotin**

Searcher : Shears 571-272-2528

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carboxylase domain, useful for identifying
ACCase inhibitors/activators.
DERWENT CLASS: B04 C07 D16 S03
INVENTOR(S): ELICH, T E; VOLRATH, S L; WEATHERLY, S C; ELICH, T D
PATENT ASSIGNEE(S): (ELIC-I) ELICH T E; (VOLR-I) VOLRATH S L; (WEAT-I)
WEATHERLY S C; (CROP-N) CROPSOLUTION INC
COUNTRY COUNT: 106
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2004013159	A2	20040212	(200417)*	EN	56
RW:	AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE				
	LS LU MC MW MZ NL OA PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW				
W:	AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE				
	DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG				
	KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NI NO NZ				
	OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA				
	UG US UZ VC VN YU ZA ZM ZW				
US 2004086994	A1	20040506	(200430)		
AU 2003263980	A1	20040223	(200453)		
EP 1572722	A2	20050914	(200560)	EN	
R:	AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LT LU				
	LV MC MK NL PT RO SE SI SK TR				
JP 2006500013	W	20060105	(200603)		34

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2004013159	A2	WO 2003-US24356	20030804
US 2004086994	A1 Provisional	US 2002-401170P	20020805
		US 2003-633835	20030804
AU 2003263980	A1	AU 2003-263980	20030804
EP 1572722	A2	EP 2003-767154	20030804
		WO 2003-US24356	20030804
JP 2006500013	W	WO 2003-US24356	20030804
		JP 2004-526405	20030804

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2003263980	A1 Based on	WO 2004013159
EP 1572722	A2 Based on	WO 2004013159
JP 2006500013	W Based on	WO 2004013159

PRIORITY APPLN. INFO: US 2002-401170P 20020805; US
2003-633835 20030804

AN 2004-180421 [17] WPIDS

AB WO2004013159 A UPAB: 20040310

NOVELTY - A peptide (I) comprising an **acetyl CoA carboxylase (ACC**ase) having a deleted biotin binding domain, having a deleted carboxy transferase domain, and having a functional **biotin carboxylase** domain, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a composition comprising an aqueous carrier solution and (I) solubilized in the aqueous carrier solution, with the peptide included

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in the composition in an amount of 0.001 ng-20 mg/ml of aqueous carrier solution, the peptide having a **soraphen** dissociation constant in the composition from $10(-7)$ - $10(-14)$ M, and the composition having a pH from 5-9;

(2) a nucleic acid (II) to encoding (I);

(3) a recombinant host cell that contains (II) and expresses the encoded peptide;

(4) a kit (III) comprising a first peptide of (I), in combination with a second peptide of (I), where the first and second peptides are from different species; and

(5) a kit comprising a first peptide of (I), in combination with a second peptide comprising an **ACCase** having a deleted biotin binding domain, having a deleted carboxy transferase domain, and having a non-functional **biotin-carboxylase** domain, where the first and second peptide are from the same species.

USE - (I) is useful for identifying **Acetyl CoA carboxylase** inhibitors or activators, which involves combining (I) and a compound to be tested for the ability to bind to the **biotin carboxylase** domain, under conditions that permit binding to the **biotin carboxylase** domain, determining whether or not the compound binds to the **biotin carboxylase** domain, the presence of binding indicating the compound is or may be an **Acetyl CoA carboxylase** inhibitor or activator. The method further involves employing the identified binding compound in an assay to detect inhibition or enhancement of **Acetyl CoA carboxylase** activity, and selecting a compound that inhibits or activates **Acetyl CoA carboxylase** activity. (I) is also useful for identifying fungicides, which involves combining (I) and a compound to be tested for the ability to bind to the **biotin carboxylase** domain, under conditions that permit binding to the **biotin carboxylase** domain, determining whether or not the compound binds to the **biotin carboxylase** domain, the presence of binding indicating the compound is or may be fungicide, employing the identified compound in an assay to detect inhibition of **Acetyl CoA carboxylase** activity, and selecting a compound that inhibits **Acetyl CoA carboxylase** activity (claimed).

DESCRIPTION OF DRAWING(S) - The figure shows the binding of (3H)-**soraphen A** and **soraphen C** conjugates to *Ustilago ACCase BC* domain and the full-length *Ustilago ACCase* protein.
Dwg.15/17

L10	ANSWER 3 OF 4	MEDLINE on STN	DUPLICATE 1
ACCESSION NUMBER:	2004635728	MEDLINE	
DOCUMENT NUMBER:	PubMed ID: 15610732		
TITLE:	A mechanism for the potent inhibition of eukaryotic acetyl-coenzyme A carboxylase by soraphen A , a macrocyclic polyketide natural product.		
AUTHOR:	Shen Yang; Volrath Sandra L; Weatherly Stephanie C; Elich Tedd D; Tong Liang		
CORPORATE SOURCE:	Department of Biological Sciences, Columbia University, New York, NY 10027, USA.		
CONTRACT NUMBER:	1R43DK068962-01 (NIDDK) DK67238 (NIDDK)		
SOURCE:	Molecular cell, (2004 Dec 22) Vol. 16, No. 6, pp.		

881-91.
 Journal code: 9802571. ISSN: 1097-2765.
 PUB. COUNTRY: United States
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
 LANGUAGE: English
 FILE SEGMENT: Priority Journals
 OTHER SOURCE: PDB-1W93; PDB-1W96
 ENTRY MONTH: 200502
 ENTRY DATE: Entered STN: 20041222
 Last Updated on STN: 20050211
 Entered Medline: 20050210

AB **Acetyl-coenzyme A carboxylases**
 (ACCs) have crucial roles in fatty acid metabolism.
Soraphen A, a macrocyclic polyketide natural product, is a
 nanomolar inhibitor against the **biotin carboxylase**
 (BC) domain of human, yeast, and other eukaryotic
 ACCs. Here we report the crystal structures of the yeast
 BC domain, alone and in complex with **soraphen A**.
Soraphen has extensive interactions with an allosteric site,
 about 25 Å from the active site. The specificity of **soraphen**
 is explained by large structural differences between the eukaryotic
 and prokaryotic BC in its binding site, confirmed by our
 studies on the effects of single-site mutations in this binding site.
 Unexpectedly, our structures suggest that **soraphen** may bind
 in the BC dimer interface and inhibit the BC
 activity by disrupting the oligomerization of this domain.
 Observations from native gel electrophoresis confirm this structural
 insight. The structural information provides a foundation for
 structure-based design of new inhibitors against these enzymes.

L10 ANSWER 4 OF 4 MEDLINE on STN DUPLICATE 2
 ACCESSION NUMBER: 2004234120 MEDLINE
 DOCUMENT NUMBER: PubMed ID: 14766011
 TITLE: Expression and characterization of recombinant fungal
acetyl-CoA carboxylase and
 isolation of a **soraphen**-binding domain.
 AUTHOR: Weatherly Stephanie C; Volrath Sandra L; Elich Tedd D
 CORPORATE SOURCE: Cropsolution, Inc., P.O. Box 14069, Research Triangle
 Park, NC 27560, USA.
 SOURCE: The Biochemical journal, (2004 May 15) Vol. 380, No. Pt
 1, pp. 105-10.
 Journal code: 2984726R. E-ISSN: 1470-8728.
 PUB. COUNTRY: England: United Kingdom
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
 LANGUAGE: English
 FILE SEGMENT: Priority Journals
 OTHER SOURCE: GENBANK-AY444507
 ENTRY MONTH: 200410
 ENTRY DATE: Entered STN: 20040511
 Last Updated on STN: 20041027
 Entered Medline: 20041026

AB **Acetyl-CoA carboxylase (ACC)**
 catalyses the first step in fatty-acid biosynthesis. Owing to its
 role in primary metabolism, ACC has been exploited as a
 commercial herbicide target and identified as a chemically validated
 fungicide target. In animals, ACC is also a key regulator
 of fat metabolism. This function has made ACC a prime
 target for the development of anti-obesity and anti-Type II diabetes
 therapeutics. Despite its economic importance, there is a lack of

published information on recombinant expression of ACC. We report here the expression of enzymically active fungal (*Ustilago maydis*) ACC in *Escherichia coli*. The recombinant enzyme exhibited K_m values of 0.14 ± 0.013 mM and 0.19 ± 0.041 mM for acetyl-CoA and ATP respectively, which are comparable with those reported for the endogenous enzyme. The polyketide natural product **soraphen** is a potent inhibitor of the BC (biotin carboxylase) domain of endogenous fungal ACC. Similarly, recombinant ACC activity was inhibited by **soraphen** with a K_i of 2.1 ± 0.9 nM. A truncated BC domain that included amino acids 2-560 of the full-length protein was also expressed in *E. coli*. The isolated BC domain was expressed to higher levels, and was more stable than full-length ACC. Although incapable of enzymic turnover, the BC domain exhibited high-affinity **soraphen** binding (K_d 1.1 ± 0.3 nM), demonstrating a native conformation. Additional BC domains from the phytopathogenic fungi *Magnaporthe grisea* and *Phytophthora infestans* were also cloned and expressed, and were shown to exhibit high-affinity **soraphen** binding. Together, these reagents will be useful for structural studies and assay development.

FILE 'USPATFULL' ENTERED AT 11:26:18 ON 06 MAR 2006
CA INDEXING COPYRIGHT (C) 2006 AMERICAN CHEMICAL SOCIETY (ACS)

FILE COVERS 1971 TO PATENT PUBLICATION DATE: 2 Mar 2006 (20060302/PD)
FILE LAST UPDATED: 2 Mar 2006 (20060302/ED)
HIGHEST GRANTED PATENT NUMBER: US7007305
HIGHEST APPLICATION PUBLICATION NUMBER: US2006048257
CA INDEXING IS CURRENT THROUGH 28 Feb 2006 (20060228/UPCA)
ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 2 Mar 2006 (20060302/PD)
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Dec 2005
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Dec 2005

L1 17 SEA FILE=REGISTRY ABB=ON PLU=ON ACETYL COA CARBOXYLASE
?/CN
L2 135 SEA FILE=REGISTRY ABB=ON PLU=ON BIOTIN CARBOXYLASE?/CN
L5 19 SEA FILE=REGISTRY ABB=ON PLU=ON "SORAPHEN A"/CN OR
("SORAPHEN A1A"/CN OR "SORAPHEN B"/CN OR "SORAPHEN
C"/CN OR "SORAPHEN D"/CN OR "SORAPHEN E"/CN OR "SORAPHEN
F"/CN OR "SORAPHEN H"/CN OR "SORAPHEN J"/CN OR "SORAPHEN
M"/CN OR "SORAPHEN N"/CN) OR ("SORAPHEN Q"/CN OR "SORAPHEN
R"/CN OR "SORAPHEN S"/CN OR "SORAPHEN T"/CN OR "SORAPHEN
U"/CN OR "SORAPHEN V"/CN OR "SORAPHEN X"/CN OR "SORAPHEN
Y"/CN OR "SORAPHEN Z"/CN)
L6 8201 SEA FILE=CAPLUS ABB=ON PLU=ON L1 OR (AC OR ACETYL) (W) (COA
OR (COENZYME OR CO ENZYME OR CO) (W)A) (W) CARBOXYLASE OR
ACCASE OR ACC
L11 1550 SEA FILE=USPATFULL ABB=ON PLU=ON L6(L) (L2 OR BIOTIN
CARBOXYLASE OR BC)
L12 8 SEA FILE=USPATFULL ABB=ON PLU=ON L11(L) (L5 OR SORAPHEN)

L12 ANSWER 1 OF 8 USPATFULL on STN
ACCESSION NUMBER: 2004:239735 USPATFULL
TITLE: Heterologous production of polyketides
INVENTOR(S): Santi, Daniel, San Francisco, CA, UNITED STATES
Dayem, Linda, San Anselmo, CA, UNITED STATES
Kealey, James, San Anselmo, CA, UNITED STATES

10/633835

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2004185541	A1	20040923
APPLICATION INFO.:	US 2004-829897	A1	20040421 (10)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 2001-942407, filed on 29 Aug 2001, PENDING Division of Ser. No. US 2000-699136, filed on 27 Oct 2000, PENDING		

	NUMBER	DATE
PRIORITY INFORMATION:	US 1999-161703P	19991027 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	MORRISON & FOERSTER LLP, 3811 VALLEY CENTRE DRIVE, SUITE 500, SAN DIEGO, CA, 92130-2332	
NUMBER OF CLAIMS:	3	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	1 Drawing Page(s)	
LINE COUNT:	3330	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Recombinant host cells that comprise recombinant DNA expression vectors that drive expression of a product and a precursor for biosynthesis of that product can be used to produce useful products such as polyketides in host cells that do not naturally produce the product or produce the product or precursor at low levels due to the absence of the precursor or the presence of the precursor in rate limiting amounts.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 2 OF 8 USPATFULL on STN

ACCESSION NUMBER: 2004:209324 USPATFULL
TITLE: Use of acetyl-coa carboxylase for identifying compounds that have an insecticidal effect
INVENTOR(S): Fischer, Reiner, Monheim, GERMANY, FEDERAL REPUBLIC OF
Franken, Eva-Maria, Burlingame, CA, UNITED STATES
Nauen, Ralf, Langenfeld, GERMANY, FEDERAL REPUBLIC OF
Teuschel, Ute, Leverkusen, GERMANY, FEDERAL REPUBLIC OF

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2004161757	A1	20040819
APPLICATION INFO.:	US 2004-450224	A1	20040224 (10)
	WO 2001-EP14108		20011203

	NUMBER	DATE
PRIORITY INFORMATION:	DE 2000-10062422	20001214
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	Bayer CropScience, Patent Department, 100 Bayer Road, Pittsburgh, PA, 15205-9741	
NUMBER OF CLAIMS:	22	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	4 Drawing Page(s)	
LINE COUNT:	1860	

Searcher : Shears 571-272-2528

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention relates to nucleic acids which encode insect polypeptides with the biological activity of acetyl-CoA carboxylases, to the polypeptides encoded by them, and to their use for identifying novel, insecticidally active compounds. The invention furthermore relates to methods of finding modulators of these polypeptides, and to the use of these compounds as inhibitors of insect ACCase.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 3 OF 8 USPATFULL on STN

ACCESSION NUMBER: 2004:114155 USPATFULL
 TITLE: Recombinant biotin carboxylase domains for identification of Acetyl CoA carboxylase inhibitors
 INVENTOR(S): Elich, Tedd E., Durham, NC, UNITED STATES
 Volrath, Sandra L., Durham, NC, UNITED STATES
 Weatherly, Stephanie C., Durham, NC, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2004086994	A1	20040506
APPLICATION INFO.:	US 2003-633835	A1	20030804 (10)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2002-401170P	20020805 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	MYERS BIGEL SIBLEY & SAJOVEC, PO BOX 37428, RALEIGH, NC, 27627	
NUMBER OF CLAIMS:	22	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	21 Drawing Page(s)	
LINE COUNT:	6645	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A peptide comprising an Acetyl CoA carboxylase (ACCase) having a deleted biotin binding domain, having a deleted carboxy transferase domain, and having a functional biotin carboxylase (BC) domain is described. A nucleic acid that encodes the peptide described above and a recombinant host cell that contains the nucleic acid and expresses the encoded peptide is also described. A method of identifying Acetyl CoA carboxylase inhibitors, fungicides, and herbicides is also described herein.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 4 OF 8 USPATFULL on STN

ACCESSION NUMBER: 2004:7438 USPATFULL
 TITLE: Heterologous production of polyketides
 INVENTOR(S): Santi, Daniel V., San Francisco, CA, UNITED STATES
 Khosla, Chaitan, Stanfrod, CA, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2004005672	A1	20040108
APPLICATION INFO.:	US 2003-371475	A1	20030221 (10)

10/633835

	NUMBER	DATE
PRIORITY INFORMATION:	US 2002-358936P	20020222 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	Kosan Biosciences, Inc., Intellectual Property Department, 3832 Bay Center Place, Hayward, CA, 94545	
NUMBER OF CLAIMS:	20	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	13 Drawing Page(s)	
LINE COUNT:	3491	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Recombinant host cells that comprise recombinant DNA expression vectors that drive expression of a product and a precursor for biosynthesis of that product can be used to produce useful products such as polyketides in host cells that do not naturally produce the product or produce the product or precursor at low levels due to the absence of the precursor or the presence of the precursor in rate limiting amounts.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 5 OF 8 USPATFULL on STN

ACCESSION NUMBER: 2003:207984 USPATFULL
TITLE: Treatment of metabolic diseases with soraphen derivatives
INVENTOR(S): Gubler, Marcel, Arlesheim, SWITZERLAND
Mizrahi, Jacques, Basle, SWITZERLAND

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003144345	A1	20030731
APPLICATION INFO.:	US 2002-197078	A1	20020717 (10)

	NUMBER	DATE
PRIORITY INFORMATION:	EP 2001-118316	20010727
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	HOFFMANN-LA ROCHE INC., PATENT LAW DEPARTMENT, 340 KINGSLAND STREET, NUTLEY, NJ, 07110	
NUMBER OF CLAIMS:	15	
EXEMPLARY CLAIM:	1	
LINE COUNT:	761	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to the use of Soraphen derivatives and pharmaceutically acceptable esters thereof, for the treatment and/or prophylaxis of diseases which are associated with ACC β activity and/or fatty acid oxidation such as diabetes, obesity and dyslipidemia.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 6 OF 8 USPATFULL on STN

ACCESSION NUMBER: 2002:258831 USPATFULL
TITLE: Isolated gene for methylmalonyl CoA epimerase and
uses thereof
INVENTOR(S): Santi, Daniel, San Francisco, CA, UNITED STATES

Searcher : Shears 571-272-2528

10/633835

Dayem, Linda, Belmont, CA, UNITED STATES
Kealey, James, San Rafael, CA, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002142401	A1	20021003
APPLICATION INFO.:	US 2001-942407	A1	20010829 (9)
RELATED APPLN. INFO.:	Division of Ser. No. US 2000-699136, filed on 27 Oct 2000, PENDING		

	NUMBER	DATE
PRIORITY INFORMATION:	US 1999-161703P	19991027 (60)
	US 1999-161414P	19991025 (60)
	US 2000-206082P	20000518 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	Carolyn A. Favorito, Morrison & Foerster LLP, Suite 500, 3811 Valley Centre Drive, San Diego, CA, 92130-2332	
NUMBER OF CLAIMS:	25	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	1 Drawing Page(s)	
LINE COUNT:	3389	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Recombinant host cells that comprise recombinant DNA expression vectors that drive expression of a product and a precursor for biosynthesis of that product can be used to produce useful products such as polyketides in host cells that do not naturally produce the product or produce the product or precursor at low levels due to the absence of the precursor or the presence of the precursor in rate limiting amounts.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 7 OF 8 USPATFULL on STN

ACCESSION NUMBER: 2000:160771 USPATFULL
TITLE: Method for identifying inhibitors of soraphen A resistant acetyl-coenzyme a carboxylase
INVENTOR(S): Vahlensieck, Hans-Friedrich, Basel, Switzerland
Hinnen, Albert, Jena, Germany, Federal Republic of
PATENT ASSIGNEE(S): Novartis Finance Corporation, New York, NY, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6153374		20001128
APPLICATION INFO.:	US 1995-469708		19950606 (8)
RELATED APPLN. INFO.:	Division of Ser. No. US 1994-354973, filed on 13 Dec 1994, now patented, Pat. No. US 5641666		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Gitomer, Ralph		
LEGAL REPRESENTATIVE:	Stults, Larry W.		
NUMBER OF CLAIMS:	2		
EXEMPLARY CLAIM:	1		
LINE COUNT:	739		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB An assay to identify inhibitors of soraphen A resistant

Searcher : Shears 571-272-2528

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acetyl-coenzyme A carboxylase comprising measuring the reactivity of acetyl-coenzyme A carboxylase in the presence and in the absence of a compound suspected to inhibit soraphen A resistant acetyl-coenzyme A carboxylase reactivity, and comparing the reactivity measurements to identify inhibitors of soraphen A resistant acetyl-coenzyme A carboxylase.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 8 OF 8 USPATFULL on STN

ACCESSION NUMBER: 97:54118 USPATFULL

TITLE: Soraphen A resistant fungi and acetyl-CoA carboxylase

INVENTOR(S): Vahlensieck, Hans-Friedrich, Basel, Switzerland
Hinnen, Albert, Jena, Germany, Federal Republic of
PATENT ASSIGNEE(S): Novartis Corporation, Tarrytown, NY, United States
(U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5641666		19970624
APPLICATION INFO.:	US 1994-354973		19941213 (8)

	NUMBER	DATE
PRIORITY INFORMATION:	GB 1993-25819	19931217
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Wax, Robert A.	
ASSISTANT EXAMINER:	Lau, Kawai	
LEGAL REPRESENTATIVE:	Pace, Gary M.	
NUMBER OF CLAIMS:	3	
EXEMPLARY CLAIM:	1	
LINE COUNT:	867	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention discloses DNA molecules comprising a gene encoding yeast acetyl-coenzyme A carboxylase resistant to soraphen A inhibition. Mutations conferring soraphen A resistance to acetyl-CoA carboxylase can be dominant or recessive, and they can be point mutations, deletion or insertion mutations. In addition methods of isolating a gene encoding fungal acetyl-coenzyme A carboxylase resistant to soraphen A inhibition are provided as well as methods for purifying fungal acetyl-coenzyme A carboxylase resistant to soraphen A inhibition. Purified enzyme can be used in assays to identify inhibitors of soraphen A resistant acetyl-coenzyme A carboxylase.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

(FILE 'CAPLUS, MEDLINE, BIOSIS, EMBASE, WPIDS, CONFSCI, SCISEARCH, JICST-EPLUS, JAPIO, USPATFULL' ENTERED AT 11:28:05 ON 06 MAR 2006)

L13 107 S "ELICH T"?/AU
L14 146 S "VOLRATH S"?/AU
L15 28 S "WEATHERLY S"?/AU
L16 14 S L13 AND L14 AND L15
L17 14 S L13 AND (L14 OR L15)
L18 14 S L14 AND L15
L19 15 S (L13 OR L14 OR L15) AND L7
L20 15 S L16 OR L17 OR L18 OR L19

- Author(s)

Searcher : Shears 571-272-2528

L21 6 DUP REM L20 (9 DUPLICATES REMOVED)

L21 ANSWER 1 OF 6 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2006:149488 CAPLUS

DOCUMENT NUMBER: 144:187043

TITLE: Crystal structure of **biotin carboxylase** domain of **acetyl-coenzyme A carboxylase** and its use for molecular modeling of modulators

INVENTOR(S): Shen, Yang; Volrath, Sandra L.; Weatherly, Stephanie C.; Elich, Tedd D.; Anderson, Richard; Tong, Liang

PATENT ASSIGNEE(S): Cropsolution, Inc., USA

SOURCE: PCT Int. Appl., 483 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006017515	A2	20060216	WO 2005-US27440	20050803
<p>W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW</p> <p>RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM</p>				
PRIORITY APPLN. INFO.:			US 2004-599831P	P 20040806
			US 2004-637068P	P 20041217

AB The crystal structure atomic coordinates are provided for a **biotin carboxylase (BC)** domain of yeast **acetyl-CoA carboxylase (ACC)** as free enzyme at 2.9 Å resolution and in complex with soraphen A at 1.8 Å resolution. Homol. modeling of yeast **ACC** may be employed to solve the structures of **BC** domains of other **ACC** species, including those of *Magnaporthe*, *Ustilago maydis*, *Phytophthora infestans*, human **ACC1** and **ACC2**, and mouse. The invention also provides computer-based methods for identifying compds. that modulates activity of **ACC**, a computer-based method for rationally designing a compound that modulates activity of **ACC**, along with compds. produced by such methods. The structures suggest that soraphen may have a novel mechanism of inhibiting the **BC** domain by binding in the dimer interface, thereby disrupting the oligomerization of this domain, which is crucial for its catalytic activity. A fluorescence-based binding assay allowed characterization of the effects of single site mutations in the soraphen binding site on inhibitor sensitivity. Agrochem. and pharmaceutical uses of **ACC** modulators are also provided (no data).

10/633835

L21 ANSWER 2 OF 6 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 1

ACCESSION NUMBER: 2004:120870 CAPLUS

DOCUMENT NUMBER: 140:176293

TITLE: Sequences of fungal and human **acetyl CoA carboxylase** and recombinant **biotin carboxylase** domains for identification of **acetyl CoA carboxylase** inhibitors

INVENTOR(S): Elich, Tedd D.; Volrath, Sandra L.; Weatherly, Stephanie C.

PATENT ASSIGNEE(S): Cropsolution, Inc., USA

SOURCE: PCT Int. Appl., 56 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004013159	A2	20040212	WO 2003-US24356	20030804
WO 2004013159	A3	20050909		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
CA 2494268	AA	20040212	CA 2003-2494268	20030804
US 2004086994	A1	20040506	US 2003-633835	20030804
EP 1572722	A2	20050914	EP 2003-767154	20030804
EP 1572722	A3	20051102		
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK			
JP 2006500013	T2	20060105	JP 2004-526405	20030804
PRIORITY APPLN. INFO.:			US 2002-401170P	P 20020805
			WO 2003-US24356	W 20030804

AB A peptide comprising an **Acetyl CoA carboxylase** (**ACCase**) having a deleted biotin binding domain, having a deleted carboxy transferase domain, and having a functional **biotin carboxylase** (**BC**) domain is described. **ACCase** is selected from the group consisting of mammal, insect, yeast, Ascomycota, Basidiomycota, and Oomycota **ACCase**. The protein sequence of the peptide described above and a recombinant host cell that contains the nucleic acid and expresses the encoded peptide is also described. A method of identifying **Acetyl CoA carboxylase** inhibitors, fungicides, is also described herein.

L21 ANSWER 3 OF 6 USPATFULL on STN

ACCESSION NUMBER: 2004:114155 USPATFULL

Searcher : Shears 571-272-2528

10/633835

TITLE: Recombinant **biotin carboxylase**
domains for identification of Acetyl CoA
carboxylase inhibitors
INVENTOR(S): **Elich, Tedd E.**, Durham, NC, UNITED STATES
Volrath, Sandra L., Durham, NC, UNITED
STATES
Weatherly, Stephanie C., Durham, NC,
UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2004086994	A1	20040506
APPLICATION INFO.:	US 2003-633835	A1	20030804 (10)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2002-401170P	20020805 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	MYERS BIGEL SIBLEY & SAJOVEC, PO BOX 37428, RALEIGH, NC, 27627	
NUMBER OF CLAIMS:	22	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	21 Drawing Page(s)	
LINE COUNT:	6645	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A peptide comprising an **Acetyl CoA carboxylase (ACCase)** having a deleted biotin binding domain, having a deleted carboxy transferase domain, and having a functional **biotin carboxylase (BC)** domain is described. A nucleic acid that encodes the peptide described above and a recombinant host cell that contains the nucleic acid and expresses the encoded peptide is also described. A method of identifying **Acetyl CoA carboxylase** inhibitors, fungicides, and herbicides is also described herein.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L21 ANSWER 4 OF 6 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 2
ACCESSION NUMBER: 2005:38098 CAPLUS
DOCUMENT NUMBER: 142:214253
TITLE: A mechanism for the potent inhibition of
eukaryotic **acetyl-coenzyme**

A **carboxylase** by soraphen A, a
macrocyclic polyketide natural product

AUTHOR(S): Shen, Yang; **Volrath, Sandra L.**;
Weatherly, Stephanie C.; **Elich, Tedd**
D.; Tong, Liang

CORPORATE SOURCE: Department of Biological Sciences, Columbia
University, New York, NY, 10027, USA

SOURCE: Molecular Cell (2004), 16(6), 881-891
CODEN: MOCEFL; ISSN: 1097-2765

PUBLISHER: Cell Press

DOCUMENT TYPE: Journal

LANGUAGE: English

AB **Acetyl-CoA carboxylases (ACCs)**
have crucial roles in fatty acid metabolism Soraphen A, a macrocyclic
polyketide natural product, is a nanomolar inhibitor against the

Searcher : Shears 571-272-2528

biotin carboxylase (BC) domain of human, yeast, and other eukaryotic **ACCs**. Here we report the crystal structures of the yeast **BC** domain, alone and in complex with soraphen A. Soraphen has extensive interactions with an allosteric site, about 25 Å from the active site. The specificity of soraphen is explained by large structural differences between the eukaryotic and prokaryotic **BC** in its binding site, confirmed by our studies on the effects of single-site mutations in this binding site. Unexpectedly, our structures suggest that soraphen may bind in the **BC** dimer interface and inhibit the **BC** activity by disrupting the oligomerization of this domain. Observations from native gel electrophoresis confirm this structural insight. The structural information provides a foundation for structure-based design of new inhibitors against these enzymes.

REFERENCE COUNT: 57 THERE ARE 57 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 3

ACCESSION NUMBER: 2004:468907 CAPLUS

DOCUMENT NUMBER: 141:152893

TITLE: Expression and characterization of recombinant fungal **acetyl-CoA carboxylase** and isolation of a soraphen-binding domain

AUTHOR(S): Weatherly, Stephanie C.; Volrath, Sandra L.; Elich, Tedd D.

CORPORATE SOURCE: Cropsolution, Inc., Research Triangle Park, NC, 27560, USA

SOURCE: Biochemical Journal (2004), 380(1), 105-110
CODEN: BIJOAK; ISSN: 0264-6021

PUBLISHER: Portland Press Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB **Actyl-CoA carboxylase (ACC)** catalyzes the 1st step in fatty acid biosynthesis. Owing to its role in primary metabolism, **ACC** has been exploited as a com. herbicide target and identified as a chemical validated fungicide target. In animals, **ACC** is also a key regulator of lipid metabolism. This function has made **ACC** a prime target for the development of antiobesity and anti-type II diabetes therapeutics. Despite its economic importance, there is a lack of published information on the recombinant expression of **ACC**. Here, the authors report the expression of enzymically active fungal (*Ustilago maydis*) **ACC** in *Escherichia coli*. The recombinant enzyme exhibited K_m values of 0.14 and 0.19 mM for acetyl-CoA and ATP resp., which were comparable with those reported for the endogenous enzyme. The polyketide natural product, soraphen A, is a potent inhibitor of the **biotin carboxylase (BC)** domain of endogenous fungal **ACC**. Similarly, recombinant **ACC** activity was inhibited by soraphen A with a K_i of 2.1 nM. A truncated **BC** domain that included amino acids 2-560 of the full-length protein was also expressed in *E. coli*. The isolated **BC** domain was expressed to higher levels, and was more stable than full-length **ACC**. Although incapable of enzymic turnover, the **BC** domain exhibited high-affinity soraphen A binding ($K_d = 1.1$ nM), demonstrating a native conformation. Addnl. **BC** domains from the phytopathogenic fungi, *Magnaporthe grisea* and *Phytophthora infestans*, were also cloned and expressed, and were shown to exhibit high-affinity soraphen A binding.

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Together, these reagents will be useful for structural studies and assay development.

REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 6 OF 6 USPATFULL on STN

ACCESSION NUMBER: 2002:100183 USPATFULL
TITLE: METHODS FOR CONTROLLING GIBBERELLIN LEVELS
INVENTOR(S): BROWN, SHERRI M., CHESTERFIELD, MO, UNITED STATES
ELICH, TEDD D., BALLWIN, MO, UNITED STATES
HECK, GREGORY R., CRYSTAL LAKE PARK, MO, UNITED STATES
KISHORE, GANESH M., ST LOUIS, MO, UNITED STATES
LOGUSCH, EUGENE W., CHESTERFIELD, MO, UNITED STATES
LOGUSCH, SHERRY J., CHESTERFIELD, MO, UNITED STATES
PILLER, KENNETH J., ST LOUIS, MO, UNITED STATES
RAO, SUDABATHULA, ST LOUIS, MO, UNITED STATES
REAM, JOEL E., ST LOUIS, MO, UNITED STATES
PATENT ASSIGNEE(S): ARNOLD WHITE & DURKEE (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002053095	A1	20020502
	US 6723897	B2	20040420
APPLICATION INFO.:	US 1999-371307	A1	19990810 (9)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	APPLICATION		
LEGAL REPRESENTATIVE:	Melinda Patterson, HOWREY SIMON ARNOLD & WHITE, LLP, 750 Bering Drive, Houston, TX, 77057		
NUMBER OF CLAIMS:	79		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	43 Drawing Page(s)		
LINE COUNT:	8723		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Methods and materials are disclosed for the inhibition and control of gibberellic acid levels. In particular, nucleic acid sequences of copalyl diphosphate synthase, 3- β hydroxylase, and 2-oxidase and additional nucleic acid sequences are disclosed. Gibberellic acid levels may be inhibited or controlled by preparation of a chimeric expression construct capable of expressing a RNA or protein product which suppresses the gibberellin biosynthetic pathway sequence, diverts substrates from the pathway or degrades pathway substrates or products. The sequence is preferably a copalyl diphosphate synthase sequence, a 3 β -hydroxylase sequence, a 2-oxidase sequence, a phytoene synthase sequence, a C20-oxidase sequence, and a 2 β ,3 β -hydroxylase sequence. Administration of a complementing agent, preferably a gibberellin or gibberellin precursor or intermediate restores bioactivity.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

FILE 'HOME' ENTERED AT 11:31:24 ON 06 MAR 2006

Searcher : Shears 571-272-2528

=> d his ful

(FILE 'CAPLUS' ENTERED AT 10:49:28 ON 06 MAR 2006)
DEL HIS Y

FILE 'REGISTRY' ENTERED AT 11:11:42 ON 06 MAR 2006

E ACETYL COA CARBOXYLASE/CN 5
L1 17 SEA ABB=ON PLU=ON ACETYL COA CARBOXYLASE ?/CN
E BIOTIN CARBOXYLASE/CN 5
L2 135 SEA ABB=ON PLU=ON BIOTIN CARBOXYLASE?/CN
E SORAPHEN/CN
L3 1 SEA ABB=ON PLU=ON "SORAPHEN A"/CN
E SORAPHENS/CN 5
L4 1 SEA ABB=ON PLU=ON 128481-23-2/RN
D CN
E SORAPHEN/CN
L5 19 SEA ABB=ON PLU=ON "SORAPHEN A"/CN OR ("SORAPHEN A1A
"/CN OR "SORAPHEN B"/CN OR "SORAPHEN C"/CN OR "SORAPHEN
D"/CN OR "SORAPHEN E"/CN OR "SORAPHEN F"/CN OR "SORAPHEN
H"/CN OR "SORAPHEN J"/CN OR "SORAPHEN M"/CN OR "SORAPHEN
N"/CN) OR ("SORAPHEN Q"/CN OR "SORAPHEN R"/CN OR "SORAPHEN
S"/CN OR "SORAPHEN T"/CN OR "SORAPHEN U"/CN OR "SORAPHEN
V"/CN OR "SORAPHEN X"/CN OR "SORAPHEN Y"/CN OR "SORAPHEN
Z"/CN)

FILE 'CAPLUS' ENTERED AT 11:18:28 ON 06 MAR 2006
L6 8201 SEA ABB=ON PLU=ON L1 OR (AC OR ACETYL) (W) (COA OR
(COENZYME OR CO ENZYME OR CO) (W)A) (W) CARBOXYLASE OR ACCASE
OR ACC
L7 145 SEA ABB=ON PLU=ON L6 AND (L2 OR BIOTIN CARBOXYLASE OR
BC)
L8 5 SEA ABB=ON PLU=ON L7 AND (L5 OR SORAPHEN)
L*** DEL 4 S L8 AND ELICH ?/AU

FILE 'REGISTRY' ENTERED AT 11:24:05 ON 06 MAR 2006

FILE 'CAPLUS' ENTERED AT 11:24:05 ON 06 MAR 2006
D QUE L8
D 1-5 .BEVSTR

FILE 'MEDLINE, BIOSIS, EMBASE, WPIDS, CONFSCI, SCISEARCH,
JICST-EPLUS, JAPIO' ENTERED AT 11:25:07 ON 06 MAR 2006
L9 10 SEA ABB=ON PLU=ON L8
L10 4 DUP REM L9 (6 DUPLICATES REMOVED)
D 1-4 IBIB ABS

FILE 'USPATFULL' ENTERED AT 11:26:18 ON 06 MAR 2006
L11 1550 SEA ABB=ON PLU=ON L6(L) (L2 OR BIOTIN CARBOXYLASE OR BC)
L12 8 SEA ABB=ON PLU=ON L11(L) (L5 OR SORAPHEN)
D QUE L12
D L12 1-8 IBIB ABS

FILE 'CAPLUS, MEDLINE, BIOSIS, EMBASE, WPIDS, CONFSCI, SCISEARCH,
JICST-EPLUS, JAPIO, USPATFULL' ENTERED AT 11:28:05 ON 06 MAR 2006
L13 107 SEA ABB=ON PLU=ON "ELICH T"?/AU
L14 146 SEA ABB=ON PLU=ON "VOLRATH S"?/AU
L15 28 SEA ABB=ON PLU=ON "WEATHERLY S"?/AU
L16 14 SEA ABB=ON PLU=ON L13 AND L14 AND L15
L17 14 SEA ABB=ON PLU=ON L13 AND (L14 OR L15)

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L18 14 SEA ABB=ON PLU=ON L14 AND L15
L19 15 SEA ABB=ON PLU=ON (L13 OR L14 OR L15) AND L7
L20 15 SEA ABB=ON PLU=ON L16 OR L17 OR L18 OR L19
L21 6 DUP REM L20 (9 DUPLICATES REMOVED)
D 1-6 IBIB ABS

FILE 'HOME' ENTERED AT 11:31:24 ON 06 MAR 2006

FILE REGISTRY

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 5 MAR 2006 HIGHEST RN 875875-45-9

DICTIONARY FILE UPDATES: 5 MAR 2006 HIGHEST RN 875875-45-9

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH January 6, 2006

Please note that search-term pricing does apply when conducting SmartSELECT searches.

*
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added, *
* effective March 20, 2005. A new display format, IDERL, is now *
* available and contains the CA role and document type information. *
*

Structure search iteration limits have been increased. See HELP SLIMI for details.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

<http://www.cas.org/ONLINE/UG/regprops.html>

FILE CAPLUS

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FILE COVERS 1907 - 6 Mar 2006 VOL 144 ISS 11

FILE LAST UPDATED: 5 Mar 2006 (20060305/ED)

Effective October 17, 2005, revised CAS Information Use Policies apply. They are available for your review at:

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<http://www.cas.org/infopolicy.html>

FILE MEDLINE

FILE LAST UPDATED: 4 MAR 2006 (20060304/UP). FILE COVERS 1950 TO DAT

On December 11, 2005, the 2006 MeSH terms were loaded.

The MEDLINE reload for 2006 is now (26 Feb.) available. For details on the 2006 reload, enter HELP RLOAD at an arrow prompt (=>).
See also:

<http://www.nlm.nih.gov/mesh/>
http://www.nlm.nih.gov/pubs/techbull/nd04/nd04_mesh.html
http://www.nlm.nih.gov/pubs/techbull/nd05/nd05_med_data_changes.ht
http://www.nlm.nih.gov/pubs/techbull/nd05/nd05_2006_MeSH.html

OLDMEDLINE is covered back to 1950.

MEDLINE thesauri in the /CN, /CT, and /MN fields incorporate the MeSH 2006 vocabulary.

This file contains CAS Registry Numbers for easy and accurate substance identification.

FILE BIOSIS

FILE COVERS 1969 TO DATE.

CAS REGISTRY NUMBERS AND CHEMICAL NAMES (CNs) PRESENT
FROM JANUARY 1969 TO DATE.

RECORDS LAST ADDED: 1 March 2006 (20060301/ED)

FILE EMBASE

FILE COVERS 1974 TO 3 Mar 2006 (20060303/ED)

EMBASE has been reloaded. Enter HELP RLOAD for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

FILE WPIDS

FILE LAST UPDATED: 2 MAR 2006 <20060302/UP>
MOST RECENT DERWENT UPDATE: 200615 <200615/DW>
DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE

>>> FOR A COPY OF THE DERWENT WORLD PATENTS INDEX STN USER GUIDE,
PLEASE VISIT:

http://www.stn-international.de/training_center/patents/stn_guide.pdf

>>> FOR DETAILS OF THE PATENTS COVERED IN CURRENT UPDATES, SEE
<http://scientific.thomson.com/support/patents/coverage/latestupdates/>

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GUIDES, PLEASE VISIT:

<http://scientific.thomson.com/support/products/dwpi/>

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DOCUMENTATION NOW AVAILABLE IN DERWENT WORLD PATENTS INDEX
FIRST VIEW - FILE WPIFV.

FOR FURTHER DETAILS:

<http://scientific.thomson.com/support/products/dwpifv/>

>>> THE CPI AND EPI MANUAL CODES WILL BE REVISED FROM UPDATE 200601.

PLEASE CHECK:

<http://scientific.thomson.com/support/patents/dwpioref/reftools/classif>

>>> PLEASE BE AWARE OF THE NEW IPC REFORM IN 2006, SEE

http://www.stn-international.de/stndatabases/details/ipc_reform.html

<http://scientific.thomson.com/media/scpdf/ipcrdwpi.pdf> <<<

FILE CONFSCI

FILE COVERS 1973 TO 25 May 2005 (20050525/ED)

CSA has suspended updates until further notice,

FILE SCISEARCH

FILE COVERS 1974 TO 2 Mar 2006 (20060302/ED)

SCISEARCH has been reloaded, see HELP RLOAD for details.

FILE JICST-EPLUS

FILE COVERS 1985 TO 27 FEB 2006 (20060227/ED)

THE JICST-EPLUS FILE HAS BEEN RELOADED TO REFLECT THE 1999 CONTROLLED
TERM (/CT) THESAURUS RELOAD.

FILE JAPIO

FILE COVERS APR 1973 TO OCTOBER 27, 2005

>>> GRAPHIC IMAGES AVAILABLE <<<

>>> NEW IPC8 DATA AND FUNCTIONALITY NOT YET AVAILABLE IN THIS FILE.
USE IPC7 FORMAT FOR SEARCHING THE IPC. WATCH THIS SPACE FOR FURTHER
DEVELOPMENTS AND SEE OUR NEWS SECTION FOR FURTHER INFORMATION
ABOUT THE IPC REFORM <<<

FILE USPATFULL

FILE COVERS 1971 TO PATENT PUBLICATION DATE: 2 Mar 2006 (20060302/PD)

FILE LAST UPDATED: 2 Mar 2006 (20060302/ED)

HIGHEST GRANTED PATENT NUMBER: US7007305

HIGHEST APPLICATION PUBLICATION NUMBER: US2006048257

CA INDEXING IS CURRENT THROUGH 28 Feb 2006 (20060228/UPCA)

ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 2 Mar 2006 (20060302/PD)

REVISED CLASS FIELDS (/NCL) LAST RELOADED: Dec 2005

USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Dec 2005

FILE HOME